AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

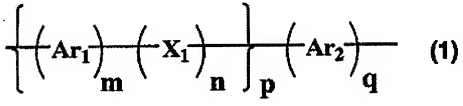
1. (currently amended): An organic light-light conversion device comprising:

a light sensing unit having a layer including a photo-conductive organic semiconductor that causes a photo-current multiplication phenomenon by light irradiation, and

a light emitting unit having a layer including an electroluminescent organic semiconductor that emits light by current injection, characterized in that

at least one of the photo-conductive organic semiconductor and the electroluminescent organic semiconductor is a polymer semiconductor having a conjugation in the main chain,

wherein the polymer semiconductor contains one or more repeating units represented by the following Formula (1):



(1)

wherein Ar_1 and Ar_2 each independently represent an arylene group or a divalent heterocyclic group; X_1 represents $-CR_1=CR_2-$, $-C\equiv C-$ or $-N(R_3)-$; R_1 and R_2 each independently represent a hydrogen atom, an alkyl group, an aryl group, a monovalent heterocyclic group, a carboxyl group, a substituted carboxyl group or a cyano group; R_3 represents a hydrogen atom, an alkyl

group, an aryl group, a monovalent heterocyclic group, an arylalkyl group or a substituted amino group; m, n and q each independently represent an integer of 0 or 1; p represents an integer of 0 to 2; and m + n and p + q are each 1 or more, provided that Ar_1, X_1, R_1, R_2 and R_3, if they are each multiple, can be respectively identical or different, and has a polystyrene-converted number average molecular weight of 1×10^3 to 1×10^8.

2. (original): The organic light-light conversion device according to claim 1, wherein the photo-conductive organic semiconductor is a polymer semiconductor.

3. (original): The organic light-light conversion device according to claim 1, wherein the electroluminescent organic semiconductor is a polymer semiconductor.

4. (currently amended): The organic light-light conversion device according to ~~any one of claims 1 to 3~~claim 1, wherein the photo-conductive organic semiconductor and the electroluminescent organic semiconductor are polymer semiconductors.

5. (currently amended): The organic light-light conversion device according to ~~any one of claims 1 to 3~~claim 1, comprising:

a) a light sensing unit having a layer including the photo-conductive organic semiconductor,

b) a light emitting unit having a layer including the electroluminescent organic semiconductor placed on a different location from the light sensing unit on the same substrate, and

c) a conductive layer connecting the light sensing unit to the light emitting unit laid on the same substrate.

6. (original): The organic light-light conversion device according to claim 5, wherein a light shielding member is provided between the light sensing unit and light emitting unit.

7. (original): The organic light-light conversion device according to claim 5, wherein a translucent member having a transmittance that suppresses but does not completely shield the flow of feedback light into the light sensing unit is provided between the light sensing unit and the light emitting unit.

8. (currently amended): The organic light-light conversion device according to ~~any one of claims 1 to 3~~claim 1, wherein the light sensing unit having a layer including the photo-conductive organic semiconductor is integrally laminated with the light emitting unit having a layer including the electroluminescent organic semiconductor.

9. (canceled).

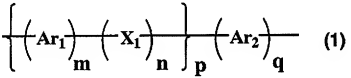
10. (currently amended): An organic light-light conversion device comprising:

a light sensing unit having a layer including a photo-conductive organic semiconductor that causes a photo-current multiplication phenomenon by light irradiation, and

a light emitting unit having a layer including an electroluminescent organic semiconductor that emits light by current injection, characterized in that

at least one of the photo-conductive organic semiconductor and the electroluminescent organic semiconductor is a polymer semiconductor having a conjugation in the main chain~~The organic light-light conversion device according to any one of claims 1 to 3~~,

wherein the layer including the photo-conductive organic semiconductor and/or the layer including the electroluminescent organic semiconductor contains two or more polymer semiconductors containing one or more repeating units represented by the following Formula (1):



(1)

wherein Ar_1 and Ar_2 each independently represent an arylene group or a divalent heterocyclic group; X_1 represents $-CR_1=CR_2-$, $-C\equiv C-$ or $-N(R_3)-$; R_1 and R_2 each independently represent a hydrogen atom, an alkyl group, an aryl group, a monovalent heterocyclic group, a carboxyl group, a substituted carboxyl group or a cyano group; R_3 represents a hydrogen atom, an alkyl group, an aryl group, a monovalent heterocyclic group, an arylalkyl group or a substituted amino group; m, n and q each independently represent an integer of 0 or 1; p represents an integer of 0 to 2; and m + n and p + q are each 1 or more, provided that Ar_1, X_1, R_1, R_2 and R_3, if they are each multiple, can be respectively identical or different, and has a polystyrene-converted number average molecular weight of 1×10^3 to 1×10^8.

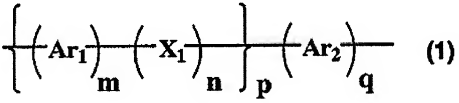
11. (currently amended): An image intensifier characterized by comprising a plurality of an organic light-light conversion devices comprising:

a light sensing unit having a layer including a photo-conductive organic semiconductor that causes a photo-current multiplication phenomenon by light irradiation, and

a light emitting unit having a layer including an electroluminescent organic semiconductor that emits light by current injection, characterized in that

at least one of the photo-conductive organic semiconductor and the electroluminescent organic semiconductor is a polymer semiconductor having a conjugation in the main chain,

wherein the polymer semiconductor contains one or more repeating units represented by the following Formula (1):



(1)

wherein Ar_1 and Ar_2 each independently represent an arylene group or a divalent heterocyclic group; X_1 represents $-CR_1=CR_2-$, $-C\equiv C-$ or $-N(R_3)-$; R_1 and R_2 each independently represent a hydrogen atom, an alkyl group, an aryl group, a monovalent heterocyclic group, a carboxyl group, a substituted carboxyl group or a cyano group; R_3 represents a hydrogen atom, an alkyl group, an aryl group, a monovalent heterocyclic group, an arylalkyl group or a substituted amino group; m, n and q each independently represent an integer of 0 or 1; p represents an integer of 0 to 2; and m + n and p + q are each 1 or more, provided that Ar_1, X_1, R_1, R_2 and R_3, if they are

each multiple, can be respectively identical or different, and has a polystyrene-converted number average molecular weight of 1×10^3 to 1×10^8.

12. (currently amended): A light sensor characterized by comprising an organic light-light conversion device comprising:

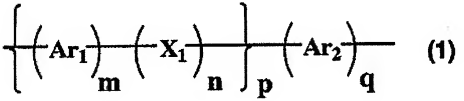
a light sensing unit having a layer including a photo-conductive organic semiconductor that causes a photo-current multiplication phenomenon by light irradiation, and

a light emitting unit having a layer including an electroluminescent organic semiconductor that emits light by current injection, characterized in that

at least one of the photo-conductive organic semiconductor and the electroluminescent organic semiconductor is a polymer semiconductor having a conjugation in the main chain, and

a unit which measures and outputs a voltage applied to both ends of the layer including the electroluminescent organic semiconductor,

wherein the polymer semiconductor contains one or more repeating units represented by the following Formula (1):



(1)

wherein Ar_1 and Ar_2 each independently represent an arylene group or a divalent heterocyclic group; X_1 represents $-CR_1=CR_2-$, $-C\equiv C-$ or $-N(R_3)-$; R_1 and R_2 each independently represent a

hydrogen atom, an alkyl group, an aryl group, a monovalent heterocyclic group, a carboxyl group, a substituted carboxyl group or a cyano group; R_3 represents a hydrogen atom, an alkyl group, an aryl group, a monovalent heterocyclic group, an arylalkyl group or a substituted amino group; m, n and q each independently represent an integer of 0 or 1; p represents an integer of 0 to 2; and m + n and p + q are each 1 or more, provided that Ar_1, X_1, R_1, R_2 and R_3, if they are each multiple, can be respectively identical or different, and has a polystyrene-converted number average molecular weight of 1×10^3 to 1×10^8.

13. (new): The organic light-light conversion device according to claim 10, wherein the photo-conductive organic semiconductor is a polymer semiconductor.

14. (new): The organic light-light conversion device according to claim 10, wherein the electroluminescent organic semiconductor is a polymer semiconductor.

15. (new): The organic light-light conversion device according to claim 10, wherein the photo-conductive organic semiconductor and the electroluminescent organic semiconductor are polymer semiconductors.

16. (new): The organic light-light conversion device according to claim 10, comprising:

a) a light sensing unit having a layer including the photo-conductive organic semiconductor,

b) a light emitting unit having a layer including the electroluminescent organic semiconductor placed on a different location from the light sensing unit on the same substrate, and

c) a conductive layer connecting the light sensing unit to the light emitting unit laid on the same substrate.

17. (new): The organic light-light conversion device according to claim 16, wherein a light shielding member is provided between the light sensing unit and light emitting unit.

18. (new): The organic light-light conversion device according to claim 16, wherein a translucent member having a transmittance that suppresses but does not completely shield the flow of feedback light into the light sensing unit is provided between the light sensing unit and the light emitting unit.

19. (new): The organic light-light conversion device according to claim 10, wherein the light sensing unit having a layer including the photo-conductive organic semiconductor is integrally laminated with the light emitting unit having a layer including the electroluminescent organic semiconductor.